CHAPTER B1

ASBESTOS CONTROL

B0101. CHAPTER ORGANIZATION

a. The chapter has been reorganized to clarify ships' requirements and responsibilities for control of asbestos exposure.

b. All U.S. Navy ships are required to have an asbestos control plan per B0102. The scope, requirement and responsibilities for each ship's plan are determined by the type of asbestos work that each ship's personnel are permitted to perform. The type of work performed, and therefore, the type of asbestos control plan required, is based on:

(1) The type of asbestos-containing materials (ACM) present aboard the ship (see B0103e(1) - (2))

(2) Whether the ship has a mission to provide asbestos repair and/or removal services to other afloat commands.

c. There are three categories of asbestos work that can be performed aboard ship (paragraph B0105). These categories are referred to in this chapter as asbestos work protocols. Individual asbestos work protocols, which detail plan work scope, plan responsibilities, and equipment and training requirements, are included for each type of asbestos work.

d. This chapter contains two types of information. Paragraphs B0101 through B0106 contain information that is general in nature, and is mandatory for all ships. Paragraphs B0107 through B0124 detail information that is applicable to ships relative to the asbestos work protocol under which the ship must operate (paragraph B0105).

B0102. APPLICABILITY

Navy policy is that asbestos-contaminated insulating materials will not be used on U.S. ships. Naval Sea Systems Command (NAVSEASYSCOM) cannot definitively establish that a ship is free of ACM. Any previous guidance that may have exempted ships from establishing and maintaining an asbestos plan has been deleted from reference B1-1. Because of this, and the fact that all U.S. Navy ships contain some form of ACM, **all ships shall implement and maintain an asbestos control plan. Commanding officers shall ensure that all required resources and personnel are assigned to accomplish this plan.** Ships with qualified teams to perform asbestos repair or removal may do so. However, due to inconsistent State-to-State, and increasingly stringent Federal air emissions reporting requirements, each ship is required to contact their type commander (TYCOM) industrial hygiene officer (IHO) and/or Regional Environmental Coordinator (REC) to determine specific local emissions reporting guidance.

a. All ships shall implement, at a minimum, the protocol for ship’s force

(paragraphs B0105a and B0107). A ship may be required to implement and maintain an additional protocol - either the protocol for Emergency Asbestos Response Team (EART) (paragraphs B0105b and B0112) or Intermediate Maintenance Activity (IMA) (paragraphs B0105c and B0118). No afloat command will be required to implement all three asbestos work protocols.

b. Any ship whose keel was laid prior to 1980 will be considered to contain friable asbestos thermal systems insulation (TSI), and shall therefore maintain an EART. Ships in this category shall implement and maintain both the ship's force (B0107 - B0111) and EART (B0112 through B0117) protocols.

c. Any ship whose keel was laid during or after 1980, per reference B1-2, was prohibited from being constructed with TSI. Therefore, these ships are not required to maintain an EART unless the ship has received repair work in a non-U.S. Navy operated facility at any time since its construction. See the note below for details.

NOTE:

Any ship that has had repair work performed in any non-U.S. Navy operated facility, should be handled as if the ship contains asbestos, unless supporting documentation, substantiated by laboratory analysis (see B0104a(3)), can document that no ACM was introduced onto the ship. **Any ship, having structural/engineering repairs in any non-U.S. Navy-operated facility, without supporting documentation to guarantee that no ACM was introduced onto the ship, regardless of the age of the ship, shall maintain an EART**. Therefore, it is strongly suggested that ships maintain, or have access to, adequate supplies of asbestos-free insulating materials for use in routine and emergency repair work conducted in non-U.S. Navy operated facilities to prevent the introduction of ACM.

d. Any ship designated as an afloat intermediate maintenance activity (IMA) and having an embarked IHO is authorized to have its qualified personnel remove unlimited amounts of ACM, onboard or aboard other ships for which it is responsible to provide maintenance support. Repair and removal operations conducted at sea, >3nm of shore, are not subject to Environmental Protection Agency (EPA) emission standards for asbestos. However, EPA standards for disposal of ACM apply upon return to port (B0104f). Any ship so designated shall implement and maintain both the ship's force (B0107 through B0111) and (B0118 through B1024) IMA asbestos control protocols.

B0103. DISCUSSION

a. Asbestos is a fibrous mineral that can be produced into a material that is fireproof, possesses high tensile strength, good heat and electrical insulating capabilities, and moderate to good chemical resistance. Because of these characteristics, asbestos has traditionally been used as thermal and acoustical insulation, pipe lagging, gaskets, brake and clutch linings, winch and capstan brakes, and roofing and flooring materials.

b. Asbestos fibers are a known health hazard. Inhalation of asbestos fibers has been demonstrated to cause at least two distinct disease states, asbestosis and cancer. Asbestosis is a progressively worsening disease of the lung and is recognized as a classic disabling or even fatal occupational disease. Asbestos has also been found as a causal factor in the development of lung cancer and of malignant pleural mesothelioma, and it is suspected of causing cancer of the gastrointestinal tract. When coupled with smoking tobacco products, the risk of developing lung cancer is increased dramatically. Mesothelioma is a rare malignant tumor of the membrane that lines the chest and abdominal cavity. It is rarely found except in those exposed to asbestos. Most symptoms of these asbestos-related diseases do not show up until 10-45 years after exposure.

c. Asbestos insulation and other asbestos-containing materials are normally not a health hazard when in good condition, secured in place, and unlikely to be disturbed. Bound asbestos materials, such as most gaskets, floor coverings, and cements are not generally health hazardous except when worked by punching, grinding, machining, or sanding or when the material is deteriorated. Of primary concern is asbestos that has the potential to become airborne through friability (able to be crushed under hand pressure). Gasket material that has been exposed to high heat over time, and damaged asbestos packing materials may also be friable.

d. There are no known acute (immediate) effects associated with exposure to asbestos. Therefore, avoid breathing asbestos dust even though it may not seem to produce any harmful effects at the time of exposure. There is only one way to completely prevent the possibility of asbestos-related illness, and that is to eliminate asbestos from the work environment. Since total removal is not possible, the Navy has instituted a plan to control the use of asbestos and to replace any removed asbestos with a non-asbestos substitute where technically acceptable substitutes have been identified.

e. Asbestos is normally found aboard ship in insulation and lagging for high temperature machinery, boilers and piping, in Garlock®-type gasket material, electrical wiring, certain deck tiles and decorative paneling, and some packing material. For purposes of this afloat instruction, ACM is characterized as one of two types:

(1) Friable. Friable ACM is defined as material that can be crumbled, pulverized or reduced to powder under hand pressure, thereby releasing airborne fibers. Friable ACM represents the most significant health hazard, because airborne fibers can be released during normal work operations. Typical examples are:

(a) Pipe lagging

(b) Acoustical insulation

(c) Sheet gasket material used in high temperature applications.

(2) Non-friable. This form of ACM, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure. The asbestos fibers in these materials cannot be readily released into the air under normal work conditions. Some examples are:

(a) Brake and clutch linings

(b) Gaskets and adhesives

(c) Floor tile and adhesives.

BO104. ASBESTOS CONTROL ELEMENTS

a. **Identification of asbestos hazards**

(1) Per Chapter A3, an industrial hygienist shall survey all work places as part of the industrial hygiene survey. During this survey, the industrial hygienist shall identify any hazards associated with asbestos and provide recommended actions to the ship to eliminate or minimize the asbestos hazard.

(2) It is necessary to determine if thermal insulation, due to be handled for repair or removal, contains asbestos, prior to the time each repair or removal is to be performed. In these cases, a sample of the insulation material shall be obtained following the procedures in Appendix B1-A, and submitted for analysis.

(3) It is not possible to identify asbestos based solely on a visual inspection. Therefore, thermal insulation, especially on ships that were built before 1980, should be handled as if it contains asbestos, unless the insulation material is shown to be asbestos-free by laboratory analysis. Ships having asbestos identification capability can provide this laboratory service, to positively identify suspected asbestos-containing materials. Shipyards, Navy Environmental Preventive Medicine Units (NAVENPVNTMEDUs), and medical treatment facilities (MTFs) also have the capability to test materials for the presence of asbestos. Identification by polarizing light microscopy or transfer electron microscopy (TEM) is acceptable.

(4) There are many means of marking asbestos-free thermal insulation. Do not rely on any such systems as positive identification of non-asbestos material.

b. **Control of asbestos in the workplace**

(1) Navy policy is to eliminate asbestos exposure hazards by substitution of ACM with asbestos-free materials, approved under the technical management of the NAVSEASYSCOM. The command shall not remove installed ACM, which are in good condition, for the sole purpose of eliminating asbestos. Where substitution is not possible, the command shall use engineering controls or and/or personal protective equipment. The command shall prohibit the use

of administrative controls, (e.g. personnel rotation) as a means of keeping the exposure below the permissible exposure limit (PEL).

(2) Specific procedures to control the accumulation of asbestos-laden waste, dust, and scrap materials are found in the individual work protocol standard operating procedures (SOPs) (Appendix B1-B for ship's force, Appendix B1-C for Emergency Asbestos Response Team, and Appendix B1-D for IMAs).

(3) Warning Signs and Labels

(a) The command shall provide and display warning signs, which comply with reference B1-3, at each location where asbestos work is performed. Post signs at a sufficient distance from the work area that personnel may read the signs and take necessary steps before entering the area. A listing of required protective equipment may be attached to, or be a part of the sign. The warning sign shall state:

DANGER

ASBESTOS

CANCER AND LUNG DISEASE HAZARD

AUTHORIZED PERSONNEL ONLY

RESPIRATORS AND PROTECTIVE CLOTHING MAY BE REQUIRED IN THIS AREA

This warning sign is available from standard stock under NSN 9905-01-345-4519.

(b) Affix warning signs to containers of raw materials, mixtures, scrap, waste, debris, samples and other products containing asbestos materials. Print the warning labels in letters of sufficient size and contrast as to be readily visible and legible. Include the following information:

DANGER

CONTAINS ASBESTOS FIBERS

AVOID CREATING DUST

CANCER AND LUNG DISEASE HAZARD

c. **Adherence to prescribed work practices**. The work processes for asbestos removal or repair are specific to the type of asbestos work protocol. See the appropriate appendix for SOPs for each work protocol:

(1) Appendix B1-B details SOPs for ship's force asbestos work

(2) Appendix B1-C is the SOPs for EART work processes

(3) Appendix B1-D covers operating procedures for the IMA processes.

d. **Proper stowage and offloading of materials containing asbestos**

(1) **Stowage of unused asbestos-containing gasket materials and packing**. Stow asbestos-containing gasket material and packing (i.e. Garlock sheets) in double, heavy-duty (6 mil thickness) plastic bags or other suitable impermeable containers. The storage material must be leak tight. All bags or containers must be provided with standard asbestos labels (paragraph B0104b(3)(b)). Exercise care in order to prevent bags and other containers from rupturing when being transported and stowed.

(2) **Handling, packaging and offloading of removed ACM**. Adequately wet ACM during removal and maintain wet through disposal. Dispose of the wet waste material in double, heavy-duty (6 mil thickness) plastic bags or other suitable impermeable containers. The waste container must be leak tight. Do not overfill the bags. Provide all bags or containers with standard warning labels per B0104b(3)(b). Distinctly color-code all asbestos waste containers red to ensure easy recognition. Exercise care in order to prevent bags and other containers from rupturing when being transported to a shore activity for disposal. Accomplish disposal per Chapter B3, Appendix B3-C.

e. **Asbestos Medical Surveillance Program (AMSP)**. The medical department representative (MDR) will determine placement of personnel into the AMSP per reference B1-4. It is possible that all three asbestos protocols may require placement of personnel into an AMSP.

f. **Environmental Protection**

(1) Repair and removal operations conducted at sea, at a distance greater than 3nm from US shore, are not subject to Environmental Protection Agency (EPA) emissions and reporting standards for asbestos. However, EPA standards for disposal of ACM apply upon return to port. All ACM will be held on station and disposed of ashore per the appropriate EPA requirements.

(2) Ships with qualified teams to perform asbestos repair or removal may do so within 3nm of shore. However, due to inconsistent State-to-State, and increasingly stringent Federal air emissions reporting requirements, each ship is required to contact their TYCOM IHO or REC to determine specific local emissions reporting guidance.

g. **Training**

(1) Training requirements for personnel performing repair or removal work with ACM are specific to the type of work performed. Each protocol contains the specific requirements for training. The training matrices are as follows:

(a) Training matrix for ship’s force is Appendix B1-E

(b) Training matrix for the EART is Appendix B1-F

(c) Training matrix for IMAs is Appendix B1-G

(2) In addition to the training requirements detailed in the specific protocols (B0109, B0114 and B0121), general training is required for all personnel currently exposed, or with the potential for being exposed to asbestos. All commands are responsible for asbestos training of their personnel. Training should be conducted by the workcenter supervisor upon assignment. General training shall include:

(a) The health effects/hazards of asbestos

(b) The association between the use of tobacco products, exposure to asbestos, and the increased risk of developing lung cancer

(c) Uses of asbestos which could result in an exposure

(d) Engineering controls and work practices associated with an individual's work assignment

(e) Purpose, proper use and limitations of protective equipment

(f) Purpose and description of medical surveillance program

(g) Description of emergency and clean-up procedures

(h) Overall review of this chapter and the command's/activity's control plan

(i) Posting signs and affixing labels.

(3) **Recordkeeping**. All shipboard asbestos records, including personal and environmental monitoring, quality control and quality assurance, and respirator fit testing, shall be transferred to a supporting shore medical activity for permanent retention as required by reference B1-4 following transfer, discharge or retirement of the individual to whom the records refer. The supporting shore medical activity shall establish a file for each ship. If a ship changes homeport, the file will be provided to the new supporting shore medical activity. Upon decommissioning, the supporting shore medical activity shall forward the asbestos record to BUMED. Each individual currently or previously working with asbestos or any other person he or she may designate, shall have access to all such records within 15 days of a written request.

(4) Training materials are available through NAVOSHENVTRACEN at www.norva.navy.mil/navosh.

B0105. TYPES OF ASBESTOS WORK PERFORMED ABOARD NAVY SHIPS

For the purposes of this chapter, all work involving ACM has been divided into three protocols. The protocols are:

a. **Ship's Force Protocol**. This protocol details the requirements and procedures for the repair and removal of materials that contain non-friable ACM (B0107). All afloat commands must comply with the requirements of this protocol.

b. **Emergency Asbestos Response Team (EART) Protocol (Formerly the 3 Men Emergency Rip-Out Team)**. This protocol details the requirements and procedures for the minor repair and removal of friable ACM (i.e. asbestos work that can be accomplished using proper glove bag procedures (B0112)).

c. **Intermediate Maintenance Activity Protocol**. This protocol details the requirements and procedures for major asbestos removals and repairs by ships designated as IMAs and having an embarked IHO assigned. Major asbestos removals and repairs are defined as any asbestos work that cannot be accomplished using a single glove bag (B0118). An IMA, with an embarked IHO, will not be required to maintain an EART.

B0106. WORKPLACE RELEASE CRITERIA

a. Strict adherence to good housekeeping procedures, and dust control measures to minimize release of asbestos fibers during removal/repair of asbestos-containing materials are the most important and effective means of reducing downtime to reoccupy a workspace after asbestos repair or abatement operations.

b. Before a space, where asbestos work was performed, may be released for unrestricted access, the area must be thoroughly cleaned and inspected. Use the checklist found in Appendix B1-H for this purpose.

B0107. PROTOCOL FOR SHIP'S FORCE PERFORMING NON-FRIABLE ASBESTOS MAINTENANCE

All Navy ships have non-friable asbestos, therefore, all afloat commands shall comply with the specific requirements of this protocol. The SOPs for the work processes authorized for ship’s force personnel to perform are found in Appendix B1-B. Additionally, all afloat commands are required to comply with the general requirements detailed in B0101 through B0106. Ship's force may perform:

a. Replacement of asbestos-containing gasket/packing material

b. Limited asbestos floor tile removal (9 ft^2 maximum)

c. Preventive maintenance of brake and clutch assemblies.

B0108. SHIP'S FORCE PROTOCOL RESPONSIBILITIES

a. **The safety officer shall**:

(1) Ensure that ship's force personnel performing work under this protocol are trained to accomplish the work described in Appendix B1-B.

(2) If applicable (see B0102c NOTE), ensure that documentation, substantiated by laboratory analysis (see B0104a(3)), is obtained for any repair work performed in non-U.S. Navy-operated facility to ensure that no ACM is introduced onto the ship.

b. **The engineering/repair/aviation intermediate maintenance department heads (as appropriate) shall:**

(1) Provide personnel who work with asbestos with the necessary equipment and protective clothing to perform work per this protocol. Appendix B1-I and Appendix B1-J detail the personal protective equipment (PPE) and authorized equipage list (AEL) required for this protocol.

(2) Identify all personnel involved in asbestos repair or removal operations that warrant AMSP consideration, per this protocol (see Appendix B1-B, Medical Surveillance Sections), and provide their names to the MDR for consideration for inclusion in the AMSP. Ensure personnel, placed in the AMSP by the MDR, report for medical examinations as required.

(3) Ensure that all asbestos-containing waste materials are collected as required per B0104d(2) and Appendix B1-B and properly stored while awaiting disposal ashore (B0104d(1) and (2)).

(4) Ensure that only work described in paragraph B0107 is performed by ship's force.

(5) Ensure that ship's force personnel performing work under this protocol are trained to accomplish the work described in Appendix B1-B.

c. **The medical department representative shall** implement, if applicable, an AMSP, per reference B1-4 for personnel performing preventive maintenance on brake assemblies.

d. **Division officers shall:**

(1) Notify the safety officer and engineer officer/repair officer prior to performing or authorizing any work that may include the repair or removal of ACM.

(2) Ensure that the workplace is properly cleaned and cleared prior to release for uncontrolled access per B0106 and Appendix B1-H. The department head or division officer may designate a leading petty officer (LPO) to accomplish the workplace release inspection.

(3) Ensure that all mandatory training for work covered in this protocol is conducted. Training requirements are detailed in B0109 and Appendix B1-E.

e. Workcenter supervisors shall train all hands who work in areas where asbestos-containing materials are present to recognize and report damaged ACM.

Training materials are available through NAVOSHENVTRACEN at www.norva.navy.mil/navosh.

f. **All hands shall:**

(1) Avoid areas posted with asbestos warning signs. Unless authorized, do not enter an asbestos-posted area.

(2) Inform appropriate supervisor of damage to materials covered under this protocol.

B0109. TRAINING

a. All personnel currently exposed or with the potential of being exposed to asbestos and their division officer and work center supervisor shall receive asbestos training prior to, or at the time of their initial assignment.

b. Training materials are available through NAVOSHENVTRACEN at www.norva.navy.mil/navosh.

B0110. PERSONAL PROTECTIVE AND ENGINEERING EQUIPMENT

A matrix containing a general list of PPE for work covered in this protocol is found in Appendix B1-I. A detailed list of all engineering equipment (AEL) is found in Appendix B1-J.

B0111. DISPOSAL OF ASBESTOS WASTE

Dispose of asbestos waste per B0104d(2), Appendix B1-B, and Chapter B3.

BO112. PROTOCOL FOR EMERGENCY ASBESTOS RESPONSE TEAM (EART) (FORMERLY THE 3-MAN EMERGENCY RIP-OUT TEAM)

All afloat commands meeting the following criteria shall have an EART to perform emergency repair or replacement of ACM. Each EART team shall consist of a supervisor, a cutter, and a cleaner. Per B0102, the following afloat commands shall maintain an EART:

a. Any ship whose keel was laid prior to 1980

b. Any ship whose keel was laid on or after 1980, not meeting the exemption for new ships detailed in B01O2c NOTE

NOTE:

A ship that is designated as an IMA with asbestos removal capabilities, and an embarked IHO does not need to maintain an EART.

c. Ships requiring the EART shall comply with all of the general

requirements of this chapter (paragraphs B0101 through B0106), the requirements of the protocol for ship's force (paragraphs B0107 through BO111), and the specific requirements of this protocol (B0112 through B0117).

d. The EART may perform:

(1) All work described in the protocol for ship's force per BO107.

(2) Asbestos repair or removal, limited to small-scale, short-duration repair or maintenance actions. Small-scale, short-duration actions are such tasks as minor repairs of asbestos-containing insulation on pipes. The definition of a minor repair includes removal and reinstallation of less than 3 linear feet of pipe insulation or less than 1 square foot (ft^2) of insulation on surfaces other than pipe (an amount that can be done within a glove bag). The standard operating procedure for this action is found in Appendix B1-C and reference B1-1.

B0113. EMERGENCY ASBESTOS RESPONSE TEAM (EART) RESPONSIBILITIES

a. **The safety officer shall:**

(1) Inspect each repair operation involving friable asbestos.

(2) Ensure that the ship has the required equipment to accomplish work per this protocol as defined in reference B1-1 and Appendix B1-J.

(3) When asbestos removal or repair operations are completed, approve access to work area using the release criteria per B0106 and complete Appendix B1-H.

b. **The engineering/repair department head (as appropriate) shall:**

(1) Ensure that a qualified IMA (either afloat or shore) is scheduled to do the work, if asbestos work exceeds the scope of this protocol

(2) Provide personnel who work with asbestos, per this protocol, with the necessary equipment and protective clothing per reference B1-1 and Appendix B1-K.

(3) Identify and provide a list of all personnel involved in asbestos operations to the medical department representative for consideration for entry into the AMSP.

(4) Ensure that all asbestos-containing waste materials are collected, stowed and disposed of as required by paragraph B0104d(2) and Chapter B3.

(5) Ensure personnel are trained, and training is documented in the member’s service record. Training requirements for this protocol are located in Appendix B1-F.

(6) If a repair or removal of ACM, involving an IMA is scheduled, interface with the IMA personnel and attend the pre-work brief per B0120.

c. **The division officer of the workspace where asbestos work is being conducted shall** attend the asbestos pre-work brief if required asbestos work exceeds the scope of this protocol (paragraph B0112d(2) and Appendix B1-L).

d. **The MDR shall** implement an AMSP, per reference B1-4.

B0114. TRAINING

a. All members of the EART shall be graduates of Shipboard Asbestos Response Course, CIN A-760-2166. (See Appendix B1-F).

b. This training shall be documented in the member's service record upon completion.

B0115. PERSONAL PROTECTIVE EQUIPMENT

Personnel engaged in work per this protocol, shall wear the protective clothing and equipment discussed in the Appendix B1-K. A list of equipment and tools can be found in Appendix B1-J.

NOTE:

Critical watchstanders, personnel who must remain in the immediate area, due to watchstanding requirements, where asbestos repair or removal is being conducted, are required to wear the same PPE as those personnel performing the asbestos work, and at least a half-mask, air purifying respirator with a filtering cartridge.

B0116. DISPOSAL OF ASBESTOS WASTE

Dispose of asbestos waste per Appendix B1-C and Chapter B3.

B0117. MEDICAL SURVEILLANCE REQUIREMENTS

Per references B1-1 and B1-4, a list of EART personnel shall be submitted to the medical department for consideration for entry into the command's AMSP.

B0118. PROTOCOL FOR INTERMEDIATE MAINTENANCE ACTIVITY (IMA) ASBESTOS MAINTENANCE/REPAIR

This protocol details the requirements and procedures for major asbestos removals and repairs. Major asbestos removals and repairs are defined as any asbestos work that cannot be accomplished using a single glove bag. Work under this protocol will be accomplished by afloat commands that have been designated as an IMA, with an embarked IHO. Shore IMA facilities, and in some situations, private contractors, may be used to conduct asbestos insulation removal.

NOTE:

Do not use this protocol for IMAs without an embarked IHO

Work under this protocol may include:

a. Any work described in the ship's force protocol (B0107)

b. The removal and repair of unlimited quantities of ACM

c. Work under this protocol will be performed using the provisions in Appendix B1-D.

B0119. ASBESTOS CONTROL PLAN RESPONSIBILITIES

a. **The IHO shall:**

(1) Inspect each area where a repair or replacement operation involving friable asbestos is scheduled.

(2) When asbestos removal or repair operations are completed, approve access to work area using Appendix B1-H.

(3) If asbestos work is scheduled to be provided to another afloat command, initiate, organize and participate in the pre-work brief, per B0120. The pre-work brief, located in Appendix B1-L, may be used for this purpose.

(4) Provide area clearance air sampling and analysis, as well as asbestos identification for the ship and tended units per reference B1-1.

(5) Ensure that individual(s) trained to analyze bulk and air samples participate and are rated "proficient" in the NIOSH Proficiency Analytical Testing (PAT) program for asbestos air samples and the Navy's Research Triangle Institute (RTI) program for asbestos bulk identification.

(6) Maintain records and appropriate logs of asbestos air sampling, asbestos identification, equipment calibration and analysis per reference B1-5.

(7) Follow the guidance of Appendix B1-D for defining personal protective equipment (PPE) and engineering controls during asbestos removal operations. A summary of PPE required is provided in Appendix B1-M. A detailed list of all equipment can be found in Appendix B1-J.

b. **The engineering/repair department head (as appropriate) shall:**

(1) Provide personnel who work with asbestos, per this protocol, with the necessary equipment and protective clothing, per Appendices B1-D and B1-M.

(2) Identify and provide a list of all personnel involved in asbestos operations to the MDR for consideration for entry into the AMSP. Ensure personnel report for medical examinations as required.

(3) Ensure that all asbestos-containing waste materials are collected, stowed and disposed of as required by paragraph B0104d(2) and Appendix B1-D and Chapter B3.

(4) Ensure personnel are trained, and training is properly documented in the member's service record. Detailed training requirements for this protocol can be found in Appendix B1-G.

c. **The MDR shall:**

(1) Implement an AMSP, per reference B1-4.

(2) Provide training on the health and medical effects of asbestos, upon request. Training materials are available through NAVOSHENVTRACEN at www.norva.navy.mil/navosh.

B0120. ASBESTOS PRE-WORK BRIEF

a. Except for the afloat IMA, all other afloat commands are prohibited from conducting the removal and/or repair of unlimited quantities of ACM. Therefore, it is necessary that the afloat IMA provide services to other afloat commands who, under operational emergencies, require immediate repair or removal of ACM that is beyond the scope of their specific asbestos work protocol.

b. Afloat commands that have been designated as IMAs, with an embarked IHO, will, from time-to-time, be asked to provide asbestos repair and/or removal services to other afloat commands. Prior to conducting asbestos operations onboard another ship, the IMA will conduct an asbestos pre-work brief with the receiving ship's engineering officer, safety officer, medical officer, division officer and the LPO of the space where the work will take place.

c. A sample pre-work brief appears in Appendix B1-L. The pre-work brief shall be signed the engineer officer/repair department head from the ship receiving asbestos services, as well as the IMA IHO. The completed and signed form shall be retained at the IMA.

B0121. TRAINING

a. All members of the IMA asbestos removal team shall be graduates of Asbestos Supervisor/Worker (CIN A-493-0069) prior to or at the time of their initial assignment. They shall attend Asbestos Supervisor/Worker Refresher (CIN A–493-0070) annually thereafter (See Appendix B1-G).

b. This training shall be documented in the member's service record.

B0122. PERSONAL PROTECTIVE EQUIPMENT

Personnel engaged in handling asbestos-containing material, shall wear the provided protective clothing discussed in Appendices B1-D and B1-M. A detailed list of all equipment and tools for work under this protocol can be found in Appendix B1-J.

B0123. DISPOSAL OF ASBESTOS WASTE

Dispose of asbestos waste per B0104d(2), Appendix B1-D, and Chapter B3.

B0124. MEDICAL SURVEILLANCE REQUIREMENTS

All designated IMA personnel will be enrolled in the command's AMSP per reference B1-4.

CHAPTER B1

REFERENCES

B1-1 Naval Ship's Technical Manual, Chapter 635, Thermal Insulation (NOTAL)

B1-2 Title 29 Code of Federal Regulations (CFR), section 1915.1001, Asbestos Exposure in all Shipyard Employment Work (NOTAL)

B1-3 Title 29 Code of Federal Regulations (CFR) section 1910.1001 (As amended), NOTAL (Not required on board ship, but a pertinent reference) (NOTAL)

B1-4 NEHC Technical Manual, Medical Surveillance Procedures Manual and Medical Matrix (NOTAL)

B1-5 NEHC Technical Manual, Industrial Hygiene Field Operations Manual (NOTAL)